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Coherent distributed radar for high-resolution through-wall imaging

Technical Report - FY11 Experiment Data Documentation

Contract No. N00014-10-C-0277

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Technical Report - FY11 Experiment Data Documentation

Summary

In this period of performance, we are continuing to develop the radar design, software, and software for the final demonstration. We are also ordering and building the final demonstration hardware.

1.0 INTRODUCTION

In this report we discuss progress in system development and experiments performed in FY11.

1.1 Software design

We continue to develop the software application at the receiver. Specifically, we are integrating a prior C program that was developed to acquire DGPS signal, with a compass, so that the position of the radar antenna can be estimated with ~2cm accuracy. We have completed the C-code that reports the DGPS readings through a serial interface, along with time stamps, and an indication of data quality. We show a screen shot of the reported GPS position below.

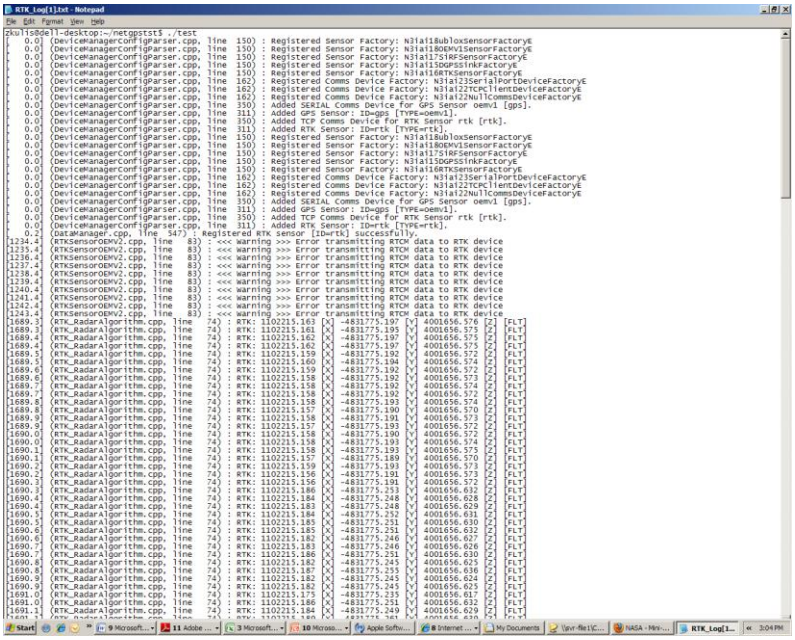

Figure 1 STK Log file screen shot

1.2 Experiments in FY011

To date, we completed a wireless, laboratory based frequency synchronization experiment with the completed hardware.